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regions of phase space is mediated by motion past equilibrium points and periodic orbits. Under these circumstances, stable and unstable manifolds of the equilibrium points and periodic orbits form the barriers dividing regions of the flow that separate. Portions of the stable and unstable manifolds isolate the regions of the fluid that form turnstiles. The primary goal of the theory Wiggins discusses is to describe the geometry of the intersections of these invariant manifolds and to develop a systematic accounting for the motion of phase-space regions into and out of turnstiles to predict rates of fluid mixing. For the simplest problems of this type, the geometry is intricate, but it can be reduced to the analysis of single area-preserving maps of the plane. Wiggins also describes other, more complex problems.

This book is a snapshot of a theory that is still new. Wiggins has brought together his own work of the past five years, but he has not gone to great lengths to provide additional background or perspective beyond that found in the original papers. On the other hand, there are many pictures in this book and they are superbly drawn: The patient reader can develop a great deal of geometric insight into the homoclinic tangles that lead to phase-space transport.

JOHN GUCKENHEIMER
Cornell University

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Chaos and Nonlinear Systems

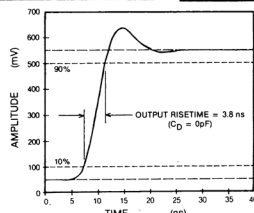
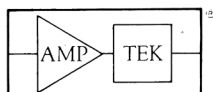
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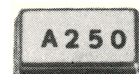
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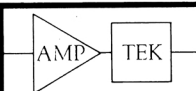
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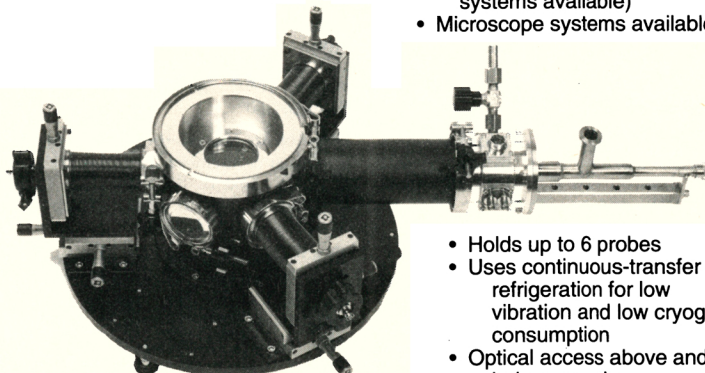
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Partial Differential Equations with Minimal Smoothness and Applications. *IMA Volumes in Mathematics and Its Applications 42.* B. Dahlberg, E. Fabes, R. Fefferman, D. Jerison, C. Kenig, J. Pipher, eds. Springer-Verlag, New York, 1992. 220 pp. \$39.00 *hc* ISBN 0-387-97774-0. *Compilation*

Polarization of the Vacuum and a Quantum Relativistic Gas in an External Field. *Proceedings of the Lebedev Institute 191.* A. Ye. Shabad (translated from the Russian by G. A. Gallant). Nova, New York, 1991. 231 pp. \$74.00 *pb* ISBN 1-56072-044-1. *Monograph*

Random Walks, Critical Phenomena, and Triviality in Quantum Field Theory. *Texts and Monographs in Physics.* R. Fern  ndez, J. Fr  hlich, A. D. Sokal. Springer-Verlag, New York, 1992. 444 pp. \$79.00 *hc* ISBN 0-387-54538-9

Recent Advances in Global Optimization. *Princeton Series in Computer Science.* C. A. Floudas, P. M. Pardalos, eds. Princeton U.P., Princeton, N. J., 1992. 633 pp. \$39.50 *pb* ISBN 0-691-02527-4. *Compilation*

Supersymmetry and Supergravity. *Princeton Series in Physics.* Second edition. J. Wess, J. Bagger. Princeton U.P., Princeton, N. J., 1992. 259 pp. \$22.50 *pb* ISBN 0-691-02530-4

Symplectic Geometry and Mathematical Physics. *Progress in Mathematics.* Proc. Conf., Aix-en-Provence, France, June 1990. P. Donato, C. Duval, J. Elhadad, G. M. Tuynman, eds. Birkh  user, Boston, 1991. 478 pp. \$74.50 *hc* ISBN 0-8176-3581-5

The Mathematical Theory of Non-Uniform Gases. Third edition. *Cambridge Mathematical Library.* S. Chapman, T. G. Cowling. Cambridge U.P., New York, 1990. 422 pp. \$34.95 *pb* ISBN 0-521-40844-X. *Monograph*

Water Waves: The Mathematical Theory with Applications. *Wiley Classics Library.* J. J. Stoker. Wiley, New York, 1992 [1958]. 567 pp. \$37.95 *pb* ISBN 0-471-57034-6. *Reprint*

Wavelets and Their Applications. M. B. Ruskai, G. Beylkin, R. Coifman, I. Daubechies, S. Mallatt, Y. Meyer, L. Raphael, eds. Jones and Bartlett, Boston, 1992. 474 pp. \$48.75 *hc* ISBN 0-86720-225-4. *Monograph* ■